

Amendments to the Claims

1 1. (currently amended) A three-dimensional television system, comprising:
2 an acquisition stage, comprising:
3 a plurality of video cameras, each video camera configured to acquire
4 a video of a dynamically changing scene in real-time;
5 means for synchronizing the plurality of video cameras; and
6 a plurality of producer modules connected to the plurality of video
7 cameras, the producer modules configured to compress the
8 videos to compressed videos and to determine viewing
9 parameters of the plurality of video cameras, in which the
10 viewing parameters include a position, orientation, field-of-
11 view, and focal plane of each video camera;
12 a display stage, comprising:
13 a plurality of decoder modules configured to decompress the
14 compressed videos to uncompressed videos;
15 a plurality of consumer modules configured to generate a plurality of
16 output videos from the decompressed videos according to the
17 viewing parameters;
18 a controller configured to broadcast the viewing parameters to the
19 plurality of decoder modules and the plurality of consumer
20 modules;
21 a three-dimensional display unit configured to concurrently display
22 the plurality of output videos onto a single display surface
23 ~~according to the viewing parameters;~~ and

24 means for connecting the plurality of decoder modules, the plurality
25 of consumer modules, and the three-dimensional display unit;
26 and
27 a transmission stage, connecting the acquisition stage to the display stage,
28 configured to transport the plurality of compressed videos and the viewing
29 parameters.

1 2. (currently amended) The system of claim 1, further comprising a plurality of
2 cameras configured to acquire calibration images displayed on the display surface
3 of the three-dimensional display unit to determine the viewing parameters.

1 3. (original) The system of claim 1, in which the display units are projectors.

1 4. (original) The system of claim 1, in which the display units are organic light
2 emitting diodes.

1 5. (original) The system of claim 1, in which the three-dimensional display unit
2 uses front-projection.

1 6. (original) The system of claim 1, in which the three-dimensional display unit
2 uses rear-projection.

1 7. (original) The system of claim 1, in which the display unit uses two-dimensional
2 display element.

1 8. (previously presented) The system of claim 1, in which the display unit uses a
2 flexible fabric.

9. (canceled)

1 10. (original) The system of claim 1, in which different output images are
2 displayed depending on a viewing direction of a viewer.

1 11. (previously presented) The system of claim 1, in which static view-dependent
2 images of an environment are displayed such that a display surface of the display
3 unit disappears.

1 12. (previously presented) The system of claim 1, in which dynamic view-
2 dependent images of an environment are displayed such that a display surface of
3 the display unit disappears.

1 13. (original) The system of claim 11 or 12, in which the view-dependent images
2 of the environment are acquired by a plurality of cameras.

1 14. (original) The system of claim 1, in which each producer module is connected
2 to a subset of the plurality of video cameras.

1 15. (original) The system of claim 1, in which the plurality of video cameras are in
2 a regularly spaced linear and horizontal array.

1 16. (original) The system of claim 1, in which the plurality of video cameras are
2 arranged arbitrarily.

1 17. (original) The system of claim 1, in which an optical axis of each video camera
2 is perpendicular to a common plane, and the up vectors of the plurality of video
3 cameras are vertically aligned.

1 18. (original) The system of claim 1, in which the viewing parameters include
2 intrinsic and extrinsic parameters of the video cameras.

1 19. (original) The system of claim 1, further comprising:
2 means for selecting a subset of the plurality of cameras for acquiring a subset
3 of videos.

1 20. (original) The system of claim 1, in which each video is compressed
2 individually and temporally.

21. (canceled)

1 22. (previously presented) The system of claim 1, in which the controller
2 determines, for each output pixel $o(u, v)$ in the output video, a view number v and a
3 position of each source pixel $s(v, x, y)$ in the decompressed videos that contributes
4 to the output pixel in the output video.

1 23. (original) The system of claim 22, in which the output pixel is a linear
2 combination of k source pixels according to

3
$$o(u, v) = \sum_{i=0}^k w_i s(v, x, y),$$

4 where blending weights w_i are predetermined by the controller based on the
5 viewing parameters.

1 24. (original) The system of claim 22, in which a block of the source pixels
2 contribute to each output pixel.

1 25. (original) The system of claim 1, in which the three-dimensional display unit
2 includes a display-side lenticular sheet, a viewer-side lenticular sheet, a diffuser,
3 and substrate between each lenticular sheets and the diffuser.

1 26. (original) The system of claim 1, in which the three-dimensional display unit
2 includes a display-side lenticular sheet, a reflector, and a substrate between the
3 lenticular sheets and the reflector.

1 27. (previously presented) The system of claim 1, in which an arrangement of the
2 cameras and an arrangement of the display units, with respect to the display unit,
3 are substantially identical, and the number of cameras and the number of display
4 units is greater than two.

1 28. (previously presented) The system of claim 1, in which the plurality of cameras
2 acquire the video of high dynamic light-fields.

- 1 29. (previously presented) The system of claim 1, in which the display units
- 2 display the output videos as high dynamic light-fields.

30. (canceled)

31. (canceled)